

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

Kaiser Aluminum Fabricated Products, L.L.C.
1901 Reymet Road, Chesterfield County, Virginia
Permit No. PRO-50249

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Kaiser Aluminum Fabricated Products, L.L.C. has applied for a Title V Operating Permit for its facility located at 1901 Reymet Road in Chesterfield County. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____

Date:

Air Permit Manager: _____

Date:

Deputy Regional Director: _____

Date:

FACILITY INFORMATION

Permittee

Kaiser Aluminum Fabricated Products, L.L.C.
1901 Reymet Road
Richmond, VA 23237

Facility

Kaiser Aluminum Fabricated Products, L.L.C.
1901 Reymet Road
Richmond, VA 23237

County-Plant Identification Number: 51- 041-0003

SOURCE DESCRIPTION

NAICS Code: 331316 – Aluminum Extruded Product Manufacturing

The facility is an aluminum extruded product manufacturing facility (NAICS 331316) which is operated by Kaiser Aluminum Fabricated Products, L.L.C. Various forms of pure aluminum, alloyed aluminum scrap (both internal and purchased), and alloying metals are blended together melted in one of three remelt furnaces, which compose the Remelt Operations (U01-1 to U01-3). Each of the remelt furnaces is fired by natural gas.

From the remelt furnaces the metal flows through troughs to three fluxing ladles or crucibles. During fluxing of the aluminum, fluxing gas and salt liberates undesired entrapped gasses and causes suspended solids to rise to the molten surface. These solids (dross) are removed and cooled in an open mold pan.

After the fluxing ladles/crucibles the aluminum enters the casting pits where it is cast into logs. The logs then enter the homogenizing furnaces (U21, U22, and U23), which are fired by natural gas. They are then sent directly to one of the three billet saws, which follow the homogenization furnaces.

After sawing, the billets enter one of five aluminum billet heaters (furnaces) (three of which, U31, U32, and U33, are significant emission units) fired by natural gas. Next, the heated billets are extruded to form the desired product. Dies used in the extrusion process are periodically cleaned at the Caustic Cleaning Station (U40). Particulate emissions, which occur during the cleaning of the dies are controlled by a wet scrubber (CD40).

After the extruded product is cooled with a water spray, solvent from the Varsol Degreaser and Parts Washers (U50) is used to clean any remaining lubricants from approximately 25% of the extruded products.

The facility is a Title V major source of Volatile Organic Compounds (VOC). This source is located in an attainment area for all pollutants, although it is part of the Richmond VOC Control Area. The facility was first constructed in the 1950s. The facility is currently permitted under two Minor NSR Permits, issued on February 28, 1980 and October 26, 1995 and the current Title V permit issued September 25, 2002.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following :

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Control	Applicable Permit Date
Remelt/Fluxing Operations							
U01-1	S01A	Reynolds Metals Company, Remelt Furnace #1 at 40,000 capacity	18.0 mmbtu/hr (combustion)	-	-	-	2/28/80
			60 tons/hr (batch) (remelt/fluxing)				
U01-2	S01B	Reynolds Metals Company, Remelt Furnace #2 at 40,000 capacity	18.0 mmbtu/hr (combustion)				-
			60 tons/hr (batch) (remelt/fluxing)				
U01-3	S01C	Reynolds Metals Company, Remelt Furnace #3 at 40,000 capacity	18.0 mmbtu/hr (combustion)				-
			60 tons/hr (batch) (remelt/fluxing)				
Sunbeam Homogenization Furnace							
U21	S21	Sunbeam Corp., Homogenization Furnace	20 mmbtu/hr (combustion)	-	-	-	-
			160,000 lb/hr (batch) (homogenization)				
Homogenization Furnaces K1 & K2							
U22	S22A	One Timco, Homogenization Furnace (K1)	12 mmbtu/hr (combustion)	-	-	-	-
	S22B		110,000 lb/hr (batch) (homogenization)				
U23	S23A	One Timco, Homogenization Furnace (K2)	12 mmbtu/hr (combustion)	-	-	-	-
	S23B		110,000 lb/hr (batch) (homogenization)				

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Control	Applicable Permit Date
Aluminum Billet Heaters No. 2, No. 6 and No. 7							
U31	S31	Granco Clark Model 35-4-S Aluminum Billet Heater No. 2	13 mmbtu/hr (combustion)	-	-	-	-
			10,000 lbs/hr (aluminum process)				
U32	S32	Granco Clark Model 1116-45-4 Hotjet	9 mmbtu/hr (combustion)	-	-	-	-
U31	S31	Aluminum Billet Heater no. 6	15,000 lbs/hr (aluminum process)	-	-	-	-
U33	S33	Granco Clark Model 1418-65-6 Hotjet	12.6 mmbtu/hr (combustion)	-	-	-	-
U31	S31	Aluminum Billet Heater no. 7	20,000 lbs/hr (aluminum process)	-	-	-	-
Caustic Cleaning Station for extrusion dies							
U40	S40	Caustic Cleaning Station	17,000 lb/hr	Heil Fume Scrubber Series 734	CD40	Particulates	10/26/95
Varsol Degreaser and Parts Washer							
U50	-	Varsol Degreaser and Parts Washers	885.5 cu. ft.	-	-	-	-

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

Emissions are summarized in the following tables.

2005 Actual Emissions

2005 Facility Wide Criteria Pollutant Emission in Tons/Year				
VOC	CO	SO ₂	PM ₁₀	NO _x
113.233	1.698	0.425	27.445	71.088

2005 Facility Hazardous Air Pollutant Emissions

Pollutant	2005 Hazardous Air Pollutant Emission in Tons/Yr
Formaldehyde	0.001
Ammonia	0.009
Hexane	0.009

EMISSION UNIT APPLICABLE REQUIREMENTS

The source has emission unit specific applicable requirements from two NSR permits (issued 2/28/80 and 10/26/95) and two Chapter 40 existing source regulations (Rules 4-18 and 4-24). The 2/80 NSR permit addresses the construction and operation of an aluminum remelt furnace #1 (ref. #U01-1) which replaced one of their three 18 mmbtu/hr remelt furnaces, (the 8/25/86 NSR permit which addressed the construction and operation of the rotary dross cooler (ref. #U010) is no longer applicable as it was removed in 2004 as per statement from source), and the 10/95 NSR permit addresses the construction and operation of the caustic cleaning station (ref. #U040). Rule 4-24, which specifies minimum VOC emission standards for non-halogenated cold cleaning and vapor degreasing, applies to the Varsol degreaser tank (ref. #U50) since the tank has no other specific requirements. Rule 4-18, which specifies minimum particulate emission standards for secondary metal processing operations, applies to remelt furnaces #1, #2 and #3 (ref. #U01-1, #U01-2 and #U01-3), homogenizing furnaces U21-U23, and Aluminum Billet heaters U31-U33 because these units have no other specific requirements. The facility is also subject to a MACT standard: 40 CFR 63 Subpart RRR which applies secondary aluminum manufacturing facilities.

Combustion Limitations from the 2/28/80 permit for the burners associated with the Reynolds Remelt Furnace #1 (emission unit ID#: U01-1):

The following combined emission limitation condition for conditions 2 and 3 (Condition III.A.2) of the Minor NSR Permit issued on February 28, 1980 for particulate and sulfur dioxide emission would be considered State BACT requirements based on information from the 1980 engineering analysis and as per regulations:

Emissions from the operation of the remelt furnace # 1's burners shall not exceed the limits specified below:

Particulate Matter	0.31 lbs/hr	1.38 tons/yr
Sulfur Dioxide	6.69 lbs/hr	29.27 tons/yr

(9 VAC 5-80-110, 9 VAC 5-50-260 and Conditions 2 & 3 of 2/28/80 Permit)

The following condition no. 7 (Condition III.A.1.) of the minor NSR permit issued on February 28, 1980 is to support the combined emission limitation condition for conditions 2 and 3 (Condition III. A.2.) above of the February 28, 1980 permit.

The approved fuels for remelt furnace #1's burners are No. 2 oil and natural gas. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 7 of 2/28/80 Permit)

Limitations from 10/26/95 permit for Caustic Cleaning Station (emission unit ID#: U40):

The following conditions 3 (Condition XIII.A.30.) (which specifies the type of control equipment) and 7 (Condition XIII.A.31.) (the emissions limitation) of the October 26, 1995 permit are based on State BACT requirements. The following condition 8 (Condition XIII.A.32.) visible emissions limitation is based on the new source visible emission standard as per 9 VAC 5-50-80 and the new source compliance requirements.

3. Particulate emissions from the caustic cleaning tanks shall be controlled by 99% efficient scrubber (Heil Fume Scrubber Series 734). The scrubber shall be provided with adequate access for inspection. The scrubber shall be equipped with a water flow meter.
(Sections 120-08-01 H and 120-05-0403 of State Regulations)
7. Emissions from the operation of the two caustic cleaning tanks shall not exceed the limits specified below:

Total Suspended Particulate	0.5 lbs/hr	1.7 tons/yr
PM-10	0.5 lbs/hr	1.7 tons/yr

(Sections 120-05-0403 and 120-05-0303 of State Regulations)

8. Visible emissions from the scrubber serving the two caustic cleaning tanks shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A) except for one 6-minute period in any one hour of not more than 30% opacity.

(Sections 120-02-11 and 120-05-01 of State Regulations)

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

Limitations (Emission Standards) for Reynolds Remelt Furnaces #1, #2 and #3 – (emission unit ID#s U01-1, U01-2, and U01-3)), Sunbeam Remelt Furnace (emission unit ID# U21), Timco Remelt Furnaces (emission unit ID#s 22 and #23) and Aluminum Billet Heaters Nos. 2, 6, and 7 (emission unit ID#s U31, U32 and U33) from Rule 4-18.

The following particulate matter limitation conditions are the maximum allowable emission rates (lbs/hr) from Article 18 (Emission Standards for Primary and Secondary Metal Operations (Rule 4-18)), which is based on the process weight rate. ("Process weight" "means the total weight of all materials introduced into any process unit which may cause any emission of pollutants. Process weight includes solid fuels charged, but does not include liquid and gaseous fuels charged or combustion air for all fuels. "Process weight rate" means a rate established as follows:

- a. For continuous or long-run steady-state process operations, the total process weight for the entire period of continuous operation or for a typical portion of it, divided by the number of hours of such period or portion of it.
- b. For cyclical or batch process operations, the total weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.)

The limitation conditions (conditions III.A.3, IV.A.6 and V.A.8) for remelt furnaces (U01-1 through U01-3) is based on a process weight rate of 5,000 lbs/hrs*:

Emissions from the operation of each process shall not exceed the limits specified below:

Particulate Matter 9.05 lbs/hr
(9 VAC 5-80-110 and 9 VAC 5-40-2410)

The limitation condition (VII.A.18.) for the Sunbeam homogenization furnace (U21) is based on a process weight rate of 40,000 lbs/hrs*:

Emissions from the operation of the U21 shall not exceed the limit specified below:

Particulate Matter 36.00 lbs/hr
(9 VAC 5-80-110, and 9 VAC 5-40-2410)

The limitation conditions (VIII.A.20. and IX.A.22.) for each of the Timco homogenization furnaces (U22 and U23) is based on a process weight rate of 27,500 lbs/hrs*:

Emissions from the operation of U22 shall not exceed the limits specified below:

Particulate Matter 28.50 lbs/hr

(9 VAC 5-80-110 and 9 VAC 5-40-2410)

The limitation condition (X.A.24.) for the Aluminum Billet Heater (or furnace) No. 2 (U31) is based on a process weight rate of 10,000 lbs/hrs*:

Emissions from the operation of U31 shall not exceed the limits specified below:

Particulate Matter 16.65 lbs/hr

(9 VAC 5-80-110 and 9 VAC 5-40-2410)

The limitation condition (XI.A.26.) for the Aluminum Billet Heater (or furnace) No. 2 (U32) is based on a process weight rate of 15,000 lbs/hrs*:

Emissions from the operation of U32 shall not exceed the limits specified below:

Particulate Matter 20.88 lbs/hr

(9 VAC 5-80-110 and 9 VAC 5-40-2410)

The limitation condition (XII.A.28.) for the Aluminum Billet Heater (or furnace) No. 2 (U33) is based on a process weight rate of 20,000 lbs/hrs*:

Emissions from the operation of U32 shall not exceed the limits specified below:

Particulate Matter 24.00 lbs/hr

(9 VAC 5-80-110 and 9 VAC 5-40-2410)

*: All of the process weight rates listed above for the emission limitations as per Rule 4-18 were assumed to be the same as the current Title V permit effective September 25, 2002. This assumption was based on the maximum capacity rates had not changed since the Title V permit became effective on September 25, 2002 and Article 18, (Emission Standards for Primary and Secondary Metal Operations (Rule 4-18)) had not changed since the Title V permit became effective on September 25, 2002.

Limitations (Emissions Standards) for Varsol Degreaser from Rule 4-24 – (emission unit ID# U50):

9 VAC 5-40-3280 C1 of State Regulations states: No owner or other person shall use or permit the use of any cold cleaner unless such cleaner is equipped with a control method that will remove, destroy or prevent the discharge into the atmosphere of at least 85% by weight of volatile organic compound emissions.

9 VAC 5-40-3280 C2 of State Regulations states: Achievement of the emission standard in subsection C1 of this section by use of the methods in 9 VAC 5-40-3290 C and D will be acceptable to the board.

9 VAC 5-40-3290 C1a-C1c of State Regulations states:

- a. Covers or enclosed remote reservoirs should be provided.
- b. External or internal drainage facilities should be provided to collect and return the solvent to a closed container or a solvent cleaning machine.
- c. A permanent label summarizing the operating procedures in subsections C.a.-C2c of this section should be placed in a conspicuous location on or near the degreaser.

9 VAC 5-40-3290 C2a-C2c of State Regulations states:

- a. Waste solvent should not be disposed of or transferred to another party, such that greater than 20% of the waste can evaporate into the atmosphere. Store waste solvent only in closed containers.
- b. The degreaser cover should be closed whenever not handling parts in the cleaner.
- c. Cleaned parts should drain for at least 15 seconds or until dripping ceases.

9 VAC 5-40-3290 D of State Regulations states: Disposal of waste solvent from solvent metal cleaning operations should be by one of the following methods:

1. Reclamation
2. Incineration

FACILITY WIDE REQUIREMENTS

Certain conditions within an existing NSR permit may be applicable to all newly constructed or modified equipment that receive a permit. Below is a listing of these conditions from the 10/95 NSR permit:

Condition #13 of 10/95 permit

In order to minimize the duration and frequency of excess emissions due to malfunctions of process equipment or air pollution control equipment, the permittee shall:

1. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.
2. Maintain an inventory of spare parts that are needed to minimize durations of air pollution control equipment breakdowns.
(9 VAC 5-170-160 of State Regulations)

Condition #14 of 10/95 permit

The permittee shall have available written operating procedures for the related air pollution control equipment. Operators shall be trained in the proper operation of all such equipment and shall be familiar with the written operating procedures. These procedures shall be based on the manufacturer's recommendations, at minimum. The permittee shall maintain records of training provided including names of trainees, date of training and nature of training.

(9 VAC 5-170-160 of State Regulations)

These conditions are being retained in the Title V permit because 1) they are applicable requirements generally applied to all modified and newly constructed equipment permitted through the minor NSR permit program; 2) they have an impact on the prevention of excess emissions and therefore are not environmentally insignificant; and 3) they require recordkeeping and reporting that may be included in periodic monitoring requirements.

New Source Standard for Visible Emissions (9 VAC 5-50-80) - The new source opacity limit (20% opacity) is applied to the melt furnace #1 (U01-1) since this is a new and modified source that did not receive specific opacity limits in the 2/80 permit. This standard also applies to the following significant emission units equipment which have been constructed or modified since 1972, but have not received NSR permits: melt furnace #3 (U01-3) and homogenizing furnaces K1 and K2 (U22-U23). In addition, Kaiser has further agreed to stipulate that their remaining significant emission units (which would ordinarily be subject to the Existing Source Standard for Visible Emissions (9 VAC 5-40-80) since they have not been modified since 1972) with visible emissions be subject to this standard. These include U01-2, U21, U31, U32, and U33. The caustic cleaning station is not subject to this standard since is subject to its own emission unit specific visible emission standard from its 10/95 NSR permit. The Varsol degreaser (U50) is not a source of visible emissions, and is therefore not subject to this standard. This standard also applies to the insignificant emission units at the facility, which are sources of visible emissions. These include units 101 and 120-125 from the insignificant emission unit inventory list. Since the new source visible emission standard is a generally applicable requirement (as opposed to a specific one), the aforementioned emission units retain their insignificant status. As insignificant emission units, they are assumed to be in compliance with general requirements such as this one and therefore have no periodic monitoring requirements. Therefore, only the significant units subject to this standard will be mentioned in the Title V permit, and only the significant emission units will require periodic monitoring to demonstrate compliance with this standard (see periodic monitoring below).

Area Source HAP PTE Limitations – The first Title V permit issued for this source (1/9/02) contained a requirement that the facility only process “clean charge” as defined in 40 CFR 63; subpart RRR. With this condition in place, the facility would not be subject to any requirements of MACT RRR. After the issuance of the 1/2002 permit though, the source became concerned that they would not always be able to meet this clean charge requirement. They subsequently appealed their Title V permit. The facility agreed to drop their appeal once DEQ agreed to re-issue their Title V permit without the clean charge requirement. Without the clean charge requirement, however, the source once again becomes subject to MACT RRR. MACT RRR contains two sets of requirements; one set for area sources and one set for major sources. In order to avoid the RRR major source requirements, the facility requested that DEQ determine that Kaiser is an area source for RRR purposes. In order to do this in an enforceable manner, the following conditions (#52-54) were added to the facility-wide section of the Title V permit:

- On and after March 24, 2003, Hazardous Air Pollutant (HAP) emissions from the operation of the facility shall not exceed 9.0 tons/yr for any single HAP and 24.0 tons/yr for total HAPs, calculated monthly as the sum of each consecutive 12 month period.

(9 VAC 5-80-110)
- On and after March 24, 2003, the permittee shall perform no reactive liquid/gaseous fluxing, as defined by 40 CFR 63 Subpart RRR, in any furnace or fluxing device within the facility. The furnaces (U01-1, U01-2, U01-3) shall only process clean scrap as defined within the site-specific monitoring plan required in Condition #54.
(9 VAC 5-80-110)
- On and after March 24, 2003, the permittee shall develop a written site-specific monitoring plan to demonstrate compliance with the HAP emission limits of Condition #52 and the operating limits of Condition #53. The site-specific monitoring plan shall be included as an attachment to the OM&M required by Condition #12(a). Prior to any applicability date of 40 CFR 63 Subpart RRR, the site-specific monitoring plan shall be submitted to the Director, Piedmont Regional Office for review and approval. The site-specific monitoring plan shall address HAP metals and hydrogen chloride emissions. The site-specific monitoring plan shall include, but is not limited to, the following information:
 - a. A clean scrap specification for the furnaces (U01-1, U01-2, U01-3)
 - b. A scrap inspection program meeting the requirements of 40 CFR 63.1510(p). If a scrap inspection program for D/F emissions is included in the OM&M plan, the permittee may use the same scrap inspection program for HAP metals and HCl emissions.
 - c. Performance test data for HCl emissions from the furnaces (U01-1, U01-2, U01-3). The performances tests shall be conducted while the furnaces are operated within 80% of their maximum capacity with the worst-case feed material allowed by the scrap specification of (a) of this Condition.

- d. Records of the HCl emission factor determined during the performance tests required by (c) of this Condition, the monthly feed weight for each furnace and calculations of the monthly HCl emissions from each furnace.
- e. Records of the type and amount of any reactive solid fluxing performed at that facility and any HAP emissions, determined by material balance, resulting from this fluxing, calculated monthly.
- f. Records of metal HAP emissions from the each furnace (U01-1, U01-2, U01-3), calculated monthly, and the emission factors and data used to determine these emissions.
(9 VAC 5-80-110)

These conditions include inspection, testing and recordkeeping requirements to serve as periodic monitoring.

With these conditions in place, the facility is limited as an area source of HAPs for MACT Subpart RRR purposes. Thus, only the area source requirements of MACT RRR apply to the facility. The applicable area source requirements from the MACT appear in Section VI of the Title V permit as follows:

Emission Limitations

10. Dioxins/Furans (D/F) Emissions from the secondary aluminum processing unit (consisting of U01-1, U01-2 and U01-3) shall not exceed the following for any 3-day, 24-hour rolling average period:

15.0 ug of D/F TEQ per Mg (0.00021 gr of D/F TEQ per ton) of feed/charge

Alternatively, the permittee may demonstrate compliance with this emission limitation by demonstrating that each emissions unit (U01-1, U01-2 and U01-3) is in compliance with the emission limitation listed above.

(40 CFR 63.1505(i)(3),(k)(3),(k)(5))

Operating Requirements

11. The permittee shall operate the secondary aluminum processing unit in accordance with the following operating requirements:
- a. The permittee shall provide and maintain labels at each unit (U01-1, U01-2 and U01-3) that identifies the applicable emission limitations and means of compliance, including:
 - i. The type of the affected source or emission unit; and
 - ii. The applicable operational standards and control methods. This includes, but is not limited to, the type of charge to be used for a furnace, flux materials and

materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan (Condition #12(b)).

- b. The permittee shall install, calibrate, operate and maintain a device, or devices, that measures and records or otherwise determines the weight of feed/charge of each furnace (U01-1, U01-2 and U01-3) for each operating cycle or time period used in the performance test (Condition #13). The weight measurement system(s) shall be operated in accordance with the OM&M plan (Condition #12(b)).
- c. The permittee shall operate each furnace (U01-1, U01-2 and U01-3) in accordance with the work practice/pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan (Condition #12(b)).

(40 CFR 63.1506(b),(d),(n)(2))

Monitoring Requirements

12. The permittee shall monitor the secondary aluminum processing unit in accordance with the following monitoring requirements:

- a. The permittee shall maintain and implement the submitted written operation, maintenance and monitoring plan (OM&M) addressing each furnace (U01-1, U01-2 and U01-3). The initial plan and any subsequent amendments shall be submitted to the Director, Piedmont Regional Office for review and approval. Each plan shall contain the following information:
 - i. Process parameters to be monitored to determine compliance, along with established operating levels of ranges, as applicable, for each furnace (U01-1, U01-2 and U01-3).
 - ii. A monitoring schedule for each furnace (U01-1, U01-2 and U01-3).
 - iii. Procedures for the proper operating and maintenance of each furnace (U01-1, U01-2 and U01-3).
 - iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions.
 - v. Procedures for monitoring the process parameters, including the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.
 - vi. Corrective actions to be taken when process or operating parameters deviate from the value or range established in paragraph (a)(i) of this condition, including:
 - (1) procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and

- and
 - (2) procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.
- vii. A maintenance schedule for each furnace (U01-1, U01-2 and U01-3) that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.
- viii. Documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limitations and a site-specific monitoring plan as required in (d) of this Condition for emissions units U01-1, U01-2 and U01-3.
- b. The permittee shall inspect the labels required by Condition #11(a) for each furnace (U01-1, U01-2 and U01-3) at least once per calendar month to confirm the labels are intact and legible.
- c. Each weight measurement device required by Condition #11(b) shall have an accuracy of +/- 1 percent of the weight being measured. The permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no schedule is specified, at least once every six months.
- d. The permittee shall maintain the submitted written site-specific monitoring plan. The site-specific monitoring plan shall be a part of the OM&M plan that addresses monitoring and compliance requirements for Dioxin/Furan emissions. The site-specific monitoring plan shall be submitted to the Director, Piedmont Regional Office for review and approval. The site-specific monitoring plan shall include, but is not limited to, the following information:
 - i. Documentation of each work practice, equipment/design practice, pollution prevention practice, or other measure used to meet the applicable emission standards.
 - ii. Provisions for unit labeling and feed/charge weight measurement as required by (b) and (c) of this Condition.
 - iii. If a scrap inspection program is included, provisions for the demonstration and implementation of the scrap inspection program in accordance with all applicable requirements in 40 CFR 63.1510(p).
- e. Within the OM&M plan required by (a) of this Condition, the permittee shall include the following relative to the secondary aluminum processing unit (U01-1, U01-2 and U01-3):
 - i. the identification of each emissions unit in the secondary aluminum processing unit (SAPU);
 - ii. the specific control technology or pollution prevention measure to be used for each emissions unit in the SAPU and the date of its installation or application;

- iii. application;
the emission limitation calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limitation;
 - iv. information and data demonstrating compliance for each emissions unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63 Subpart RRR; and
 - v. the monitoring requirements applicable to each emissions unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in (f) of this condition.
- f. The permittee shall calculate and record the 3-day, 24-hour rolling average emissions of Dioxin/Furans (D/F) for the SAPU on a daily basis. To calculate the 3-day, 24-hour rolling average, the permittee shall:
- i. Calculate and record the total weight of material charged to each emission unit in the SAPU for each 24-hour day of operation using the feed/charge weight information required in (c) of this Condition.
 - ii. Multiply the total feed/charge weight to the emissions unit for each emission unit for the 24-hour period by the emission rate (in lb/ton of feed/charge) for that emissions unit (as determined during the performance test) to provide emissions for each emissions unit for the 24-hour period, in pounds.
 - iii. Divide the total emissions for each SAPU for the 24-hour period by the total material charged to the SAPU over the 24-hour period to provide the daily emission rate for the SAPU.
 - iv. Compute the 24-hour daily emission rate using Equation 4 of 40 CFR 63.1510(t).
 - v. Calculate and record the 3-day, 24-hour rolling average for D/F each day by summing the daily emission rates for D/F over the 3 most recent consecutive days and dividing by 3.
- (40 CFR 63.1510(b),(c),(e),(o),(s),(t))

Notification Requirements

13. The permittee shall submit the following notifications:

- a. As required by 40 CFR63.9(b)(1), the permittee shall provide notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard.

(9 VAC 5-80-110 and 40 CFR 63.1515(a))

Reporting Requirements

14. The permittee shall submit the following reports as required below:

- a. The permittee shall develop and implement a written plan as described in 40 CFR 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process equipment used to comply with the standard. The permittee shall also keep records of each event as required by 40 CFR 63.10(b) and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40CFR63.6(e)(3). In addition to the information required in 40CFR63.6(e)(3), the plan shall include:
 - i. Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and
 - ii. Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.
- b. Pursuant to 40 CFR 63.10(e)(3), the permittee shall submit semiannual reports within 60 days after the end of each 6-month period. Each report shall contain the information specified in 40 CFR 63.10(c). When no deviations of parameters have occurred, the permittee shall submit a report stating that no excess emissions occurred during the reporting period. A report shall be submitted if any of these conditions occur during a 6-month reporting period:
 - i. An excursion of a compliant process or operating parameter value or range (e.g., definition of acceptable scrap, or other approved operating parameter).
 - ii. An action taken during a startup, shutdown, or malfunction was not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3).
 - iii. An affected source (U01-1, U01-2, U01-3) was not operated according to the requirements of 40 CFR 63 Subpart RRR.
 - iv. A deviation from the 3-day, 24-hour rolling average emission limitation for the SAPU (U01-1, U01-2, U01-3).
 - v. The permittee shall submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.
- c. For the purpose of annual certifications of compliance required by this permit, the permittee shall certify continuing compliance based upon, but not limited to, the following conditions:
 - i. Any period of excess emissions, as defined in (b) of this Condition, that occurred during the year were reported as required by (b) of this Condition; and

- ii. All monitoring, record keeping, and reporting requirements were met during the year.
(40 CFR 63.1516(a),(b),(c))

Recordkeeping Requirements

15. The permittee shall maintain the following records:

- a. Pursuant to 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR 63 Subparts A and RRR. The permittee shall retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records shall be retained at the facility. The remaining 3 years of records may be retained off site.
- b. In addition to the general records required by 40 CFR 63.10(b), the permittee shall maintain records of:
 - i. For each furnace (U01-1, U01-2, U01-3), records of feed/charge weights for each operating cycle or time period used in the performance test.
 - ii. Approved site-specific monitoring plan for each furnace (U01-1, U01-2, U01-3) with records documenting conformance with the plan.
 - iii. Records of monthly inspections for proper unit labeling for each furnace (U01-1, U01-2, U01-3).
 - iv. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including:
 - (A) startup, shutdown, and malfunction plan;
 - (B) OM&M plan; and
 - (C) site-specific SAPU emission plan.
 - v. For the SAPU (U01-1, U01-2, U01-3), records of total charge weight for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

(40 CFR 63.1517(a),(b))

General

- 16. Except as specified in this permit, the facility is to be operated in accordance with the requirements of 40 CFR 63 Subpart A (as identified in Appendix A of 40 CFR 63 Subpart RRR) and 40 CFR 63 Subpart RRR.
(40 CFR 63 Subpart RRR; 40 CFR 63 Subpart A)
- 17. For each condition in this permit requiring the measurement and recording of aluminum feed/charge weight, the permittee may choose to measure and record aluminum production weight rather than feed/charge weight provided that all requirements of 40 CFR 63.1506(d)(3) are met.
(40 CFR 63.1506(d)(3))

These conditions include testing, inspection, reporting and recordkeeping requirements to serve as periodic monitoring.

“Periodic Monitoring and Recordkeeping” and “Reporting”

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act that is subject to an applicable requirement. Note: the MACT RRR conditions already include periodic monitoring. The applicable periodic monitoring is defined as follows:

U01-1(from 2/80 permit and Rule 4-18)

Conditions #2 and #3:

Emission limits for SO₂ and PM from melt furnace #1 burner. As these emission limits were derived from combustion emission factors, the maximum rated heat input capacity of remelt furnace #1, and 8760 hrs/yr of operation, the only periodic monitoring necessary to ensure a reasonable expectation of compliance is recordkeeping of the amount of natural gas and distillate oil, including sulfur content, fired in the unit and the applicable emission factors which demonstrate compliance with the emission limits (Attachment 1). As the source specified distillate oil with a maximum sulfur content of 0.3% in their application, the SO₂ emission limit of Condition #3 was based on this value. Accordingly, the source will have to **report** any instances where the sulfur content of the oil burned in melt furnace #1 exceeds 0.3% as a possible excursion.

Condition #7:

Approved fuels natural gas and #2 oil. The approved distillate oil, as per the 2/80 permit application is #2 oil with a sulfur content of 0.3%. The only periodic monitoring necessary to ensure a reasonable expectation of compliance is tracking the types of fuels burned in the furnace, as already specified in the periodic monitoring for Conditions #2 and #3 above.

Rule 4-18

Particulate emission limit of 9.05 lbs/hr. Given the capacity of the furnace and its particulate emission factor, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2). The only periodic monitoring required will be emission factor recordkeeping.

U01-2 and U01-3 (from Rule 4-18)

Particulate emission limit of 9.05 lbs/hr each. Given the capacities of the furnaces and their particulate emission factors, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2) for both units. The only periodic monitoring required will be emission factor recordkeeping.

U21 (from Rule 4-18)

Particulate emission limit of 36.00 lbs/hr. Given the capacity of the furnace and its particulate emission factor, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2). The only periodic monitoring required will be emission factor recordkeeping.

U22-U23 (from Rule 4-18)

Particulate emission limit of 28.50 lbs/hr each. Given the capacities of the furnaces and their particulate emission factors, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2) for both units. The only periodic monitoring required will be emission factor recordkeeping.

U31 (from Rule 4-18)

Particulate emission limit of 16.65 lbs/hr. Given the capacity of the furnace and its particulate emission factor, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2). The only periodic monitoring required will be emission factor recordkeeping.

U32 (from Rule 4-18)

Particulate emission limit of 20.88 lbs/hr. Given the capacity of the furnace and its particulate emission factor, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2). The only periodic monitoring required will be emission factor recordkeeping.

U33 (from Rule 4-18)

Particulate emission limit of 24.00 lbs/hr. Given the capacity of the furnace and its particulate emission factor, compliance with this emission standard is virtually guaranteed at all times (see Attachment 2). The only periodic monitoring required will be emission factor recordkeeping.

U040 (all from 10/95 permit)

Condition #3:

Particulate emissions controlled by 99% efficient scrubber; scrubber equipped with a flow meter. Periodic monitoring shall consist of reading the scrubber flow meter and recording scrubber liquid flow rate for each operating day of the caustic cleaning tanks. As long as the flow rate exceeds 75 gpm, the scrubber should reasonably be achieving its design control efficiency of 99%.

Conditions #7:

Particulate emission limits in lbs/hr and tons/yr from the caustic cleaning tanks. These emission limits were derived from the maximum rated capacity of the caustic cleaning tanks (in gallons of caustic), a caustic tank particulate emission factor developed from stacktests, 8760 hrs/yr operation, and a particulate control efficiency of 99% from the scrubber (the periodic monitoring of which was addressed above). Since the capacity of the tanks is fixed, there should always exist a reasonable expectation of compliance with these emission limits, as demonstrated in Attachment 3. Therefore, the only periodic monitoring necessary is recordkeeping of the particulate emission factors.

Condition #8:

20% opacity limit for visible emissions from the caustic cleaning tank's scrubber. Periodic monitoring shall be as follows:

The scrubber serving the two caustic cleaning tanks shall be observed visually at least once each operating week for at least a brief time period to determine if the unit has any visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the scrubber. If the scrubber is observed having any visible

having any visible emissions, the initial observation shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

U050 (from Rule 4-24)

9 VAC 5-40-3280 and 9 VAC 5-40-3290 C and D:

Operating practice requirements to reduce VOC emissions from the facility's cold cleaning operations. Periodic monitoring for these requirements shall be a weekly inspection of cold cleaning equipment and a weekly review of cold cleaning operating practices to ensure that covers, labels, and reservoirs are well maintained and that the required operating practices regarding waste solvent storage, draining of parts, and waste solvent disposal are being adhered to.

New and Modified Source General Opacity Standard

Visible emissions from visible emission points shall not exceed 20% opacity by EPA Method 9, except for startup, shutdown, and malfunction. Periodic monitoring for significant emission units subject to this standard shall be as follows:

Each emissions point shall be observed visually at least once each operating week for at least a brief time period to determine which emissions points have normal visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions point. Each emissions point observed having above-normal visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded.

General

For all actual monitoring (i.e. daily scrubber flow rate readings, opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to the DEQ reports of any opacity observations, which reveal visible emissions in excess of an applicable standard or any scrubber liquid flow data less than 75 gpm.

Obsolete Requirements

Certain conditions of the 2/80 and 10/95 NSR permits for the sources are obsolete, no longer serve any meaningful purpose, and are unnecessary for Title V considerations.

2/80 permit

Conditions #4, #5, and #6 contain one-time testing and notification requirements. As these conditions have already been performed, they are obsolete for Title V purposes.

Conditions #8 and #9 describe VA's power to modify, rescind, reissue the 2/80 permit under certain circumstances, which can be considered extraneous to the Title V permit. The assumption underlying

assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

10/95 permit

Conditions #1 and #2 contain general descriptive information, which are not requirements and will therefore not be included in the Title V permit.

As the previously existing tanks have already been removed, Condition #4 is obsolete and will not be included in the Title V permit.

As the facility and its emission points have already been constructed, Condition #5 has been met and is now obsolete.

Conditions #6 and #9 contain one-time testing and notification requirements, which have already been performed, therefore, they are obsolete and will not be included in the Title V permit.

Condition #10 is being left out of the Title V permit because the condition defines the causes for modification or revocation of an NSR permit which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

Condition #11 is not being included as an applicable requirement in the Title V permit because it is outdated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a Title V permit. These requirements are described in Condition Q in the General Permit Condition Section of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of this condition would be redundant and the requirements have been overtaken by the Title V (Part 70) regulations.

Condition #12 is not being included as an applicable requirement in the Title V permit because it is included in the Condition F in the General Permit Condition Section of the Title V permit and is included as part of the malfunction reporting requirements for the overall permit. Including this condition as a separate enforceable condition on the permitted equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.

Condition #15 is not being included as an applicable requirement in the Title V permit because the condition, which voids the permit if modification is not commenced within 18 months, is obsolete and environmentally insignificant. These determinations are consistent with the conditions set down in the White Paper dated July 10, 1995 because the modification outlined in both these permits has already been accomplished.

Condition #16 is not being included as an applicable requirement in the Title V permit because it is redundant. Condition T in the General Permit Condition Section of the Title V permit describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirements for the NSR permit is therefore inappropriate for inclusion in the Title V permit.

Conditions #17 and #18 will not be included in the Title V permit because they contain no specific requirements and are environmentally insignificant.

8/86 permit

8/86 permit is no longer a valid permit as the permit is solely for the rotary dross cooler which has been removed from the site and therefore these conditions will not be included in the Title V permit as they are now considered obsolete.

Current Title V (issued September 25, 2002) conditions which are considered obsolete conditions as they have already been performed:

Performance Test/Compliance Requirements

18. The permittee shall comply with the following performance test requirements:

- a. Prior to conducting the performance test required by (d) of this Condition, the permittee shall prepare and submit a site-specific test plan meeting the requirements of 40 CFR 63.7(c).
- b. Following the approval of the site-specific test plan required by (a) of this Condition, the permittee shall demonstrate initial compliance with the D/F emission limitation and all equipment, work practice, or operational standard associated with this standard for each affected source and emissions unit (U01-1, U01-2, U01-3, SAPU), and report the results in the notification of compliance status report as described in Condition #14(b). The permittee shall conduct all performance tests according to the requirements of 40 CFR 63 Subparts A and RRR (63.1511 and 63.1512). The permittee shall conduct each test while the affected source or emissions unit is operating at the highest production level with charge materials representative of the range of materials processed by the unit and, if applicable, at the highest reactive fluxing rate.
- c. The permittee shall establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limitation or standard. To establish the minimum and maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63 Subpart RRR and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report.

- d. Except as provided for in 40 CFR 63.1511(f), the permittee shall conduct a performance test on each furnace (U01-1, U01-2, U01-3) to measure the emissions of D/F at the furnace exhaust outlet.
- e. The permittee shall include data and information demonstrating compliance with the applicable emission limits in the site-specific monitoring plan required by Condition #12(d).
- f. During the emission test required by (d) of this Condition, the permittee shall measure and record the total weight of feed/charge to each furnace for each of the three runs and calculate and record the total weight.
- g. The permittee shall submit the information described in 40 CFR 63.1515(b)(3) as part of the notification of compliance status report to document conformance with the operational standard in 40 CFR 63.1506(b).
(40 CFR 63.1511(a),(b),(g); 40 CFR 63.1512(e),(j),(k),(r))

Notification Requirements

19. The permittee shall submit the following notifications:

- a. As required by 40 CFR 63.9(e) and (f), the permittee shall provide notification of the anticipated date for conducting performance tests. The permittee shall notify the Director, Piedmont Regional Office, of the intent to conduct a performance test at least 60 days before the performance test is scheduled.
- b. The permittee shall submit a notification of compliance status report within 60 days after the compliance dates specified in 40 CFR 63.1501. The notification shall be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report shall include:
 - i. All information required in 40 CFR 63.9(h). The permittee shall provide a complete performance test report of each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations.
 - ii. Unit labeling as described in Condition #11(a), including process type or furnace classification and operating requirements.
 - iii. The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value, including the operating cycle or time period used in the performance test.
 - iv. Approved OM&M plan (including site-specific monitoring plan).
 - v. Startup, shutdown and malfunction plan, with revisions.

Streamlined Requirements - NA

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement No. 3-2006”.

This general condition cite(s) the Article(s) that follow(s):

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110. Permit Content]

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards
9 VAC 5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS - NA

INAPPLICABLE REQUIREMENTS - NA

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air

operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
101	Locker Room h	9 VAC 5-80-720 C		0.837 mmbtu/hr
102	Oil/Water Separ	9 VAC 5-80-720 B	VOC	
103	Oil/water Separ Dump Station	9 VAC 5-80-720 B	VOC	
104	Underground V Storage Tanks	9 VAC 5-80-720 B	VOC	30,000 gal each
105	No. 2 Fuel Oil/d Storage Tanks	9 VAC 5-80-720 B	VOC	
106	Extrusion Press Lubrication Oils Hydraulic Oils, I Oils, Gear Oils, Transmission F and Used Oils Storage Tanks & Reservoirs	9 VAC 5-80-720 B	VOC	
107	Kerosene Stora Tanks	9 VAC 5-80-720 B	VOC	3,000 gal and 1,000

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
108	Caustic Etching Station	9 VAC 5-80-720 B	None	
109	Casting Pit Lubrication	9 VAC 5-80-720 B	VOC	
110	Nitrogen Generation Plant	9 VAC 5-80-720 B	None	
111	Nitriting Unit	9 VAC 5-80-720 B	None	
112	Laboratory Hood	9 VAC 5-80-720 B	PM	
113	Cooling Oil Queue Drum	9 VAC 5-80-720 B	VOC	
114	Anhydrous Ammonia Tank	9 VAC 5-80-720 B	NH ₃	300 gallons
115	Video Ink Jet Stations	9 VAC 5-80-720 B	VOC	10 stations
116	Pack/Ship, Billet Press Finish Saw	9 VAC 5-80-720 B	PM	N/A
117	Wood Shop Saw	9 VAC 5-80-720 B	PM	N/A
118	Billet, Die and Dummy Block Lubricants	9 VAC 5-80-720 B	VOC	5 billet lubrication and die and dummy block operations
119	Chlorine Emission from Remet/Flu Operations	9 VAC 5-80-720 B	Chlorine	N/A
120	Space Heaters (Natural Gas)	9 VAC 5-80-720 B	PM, NO _x , SO ₂ , VOC, CO	0.96 mmbtu/hr each
121	Door Heaters (Natural Gas)	9 VAC 5-80-720 B	PM, NO _x , SO ₂ , VOC, CO	0.85 mmbtu/hr each
122	Age and Age/Air Ovens (Natural Gas)	9 VAC 5-80-720 B	PM, NO _x , SO ₂ , VOC, CO	3 to 5 mmbtu/hr each

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
123	Varsol Still Boiler (Natural Gas)	9 VAC 5-80-720 B	PM, NO _x , SO ₂ , VOC, CO	2.5 mmbtu/hr
124	Caustic Cleaning Heating System (Natural Gas)	9 VAC 5-80-720 B	PM, NO _x , SO ₂ , VOC, CO	1.692 mmbtu/hr
125	Two Billet Heater	9 VAC 5-80-720 B	PM, SO ₂ , NO _x , VOC, CO	5 mmbtu/hr each

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Richmond Times Dispatch from August 26, 2007 to September 25, 2007.

Attachment 1 - Title V Statement of Basis
Emission Calculation Demonstration for Periodic Monitoring
Conditions #2 and #3 of 2/80 permit
Hourly and annual criteria particulate and SO₂ emissions from melt furnace #1 burner

- One Reynolds #2 oil/natural gas-fired melt furnace rated at 40,000 lbs aluminum with a maximum rated heat input capacity of 22 MMBtu/hr
- 8760 hrs/yr
- natural gas: 1000 Btu/cf, 0.022 mmcf/hr
- #2 oil: 140,000 Btu/gal, 0.3% sulfur (periodic monitoring for Condition #7 of 2/80 permit); 0.157 mgal/hr

Emission Factors

	(natural gas; lb/mmcf)		(#2 oil; lb/mgal))	
TSP	7.6	AP-42	2	AP-42
SO ₂	0.6	AP-42	157S	AP-42 (= 42.6 at 0.3%S fuel)

Hourly Emissions - Gas

TSP	- 0.022 mmcf/hr * 7.6 lbs/mmcf	= 0.17 lb/hr
SO ₂	- 0.022 mmcf/hr * 0.6 lbs/mmcf	= 0.01 lb/hr

Hourly Emissions - Oil

TSP	- 0.157 mgal/hr * 2 lbs/ton	= 0.31 lb/hr
SO ₂	- 0.157 mgal/hr * 42.6 lbs/ton	= 6.69 lb/hr

Annual Emissions - Gas

TSP	- 0.17 lb/hr * 8760 hrs/yr / 2000 lbs/ton	= 0.74 tons/yr
SO ₂	- 0.01 lb/hr * 8760 hrs/yr / 2000 lbs/ton	= 0.04 tons/yr

Annual Emissions - Oil

TSP	- 0.31 lb/hr * 8760 hrs/yr / 2000 lbs/ton	= 1.36 tons/yr
SO ₂	- 6.69 lb/hr * 8760 hrs/yr / 2000 lbs/ton	= 29.30 tons/yr

As seen above, the maximum expected emissions from UO1-1's burner while burning either gas or oil for 8760 hrs/yr are less than the emission limits in the applicable requirement.

Attachment 2 - Title V Statement of Basis
Emission Calculation Demonstration for Periodic Monitoring
Rule 4-18 Emission Standards
Hourly particulate emissions from melt furnaces UO1-1 to UO1-3,
homogenizing furnaces U21-U23, and
aluminum billet heaters U31-U33

Rated Capacities (in tons/hr of aluminum processed and MMBtu (where applicable) of natural gas combusted)

- UO1-1 to UO1-3	5,000 lbs/hr each	
- U21	40,000 lbs/hr	20 MMBtu/hr natural gas
- U22-U23	27,500 lbs/hr each	12 MMBtu/hr natural gas
- U31	10,000 lbs/hr	13 MMBtu/hr natural gas
- U32	15,000 lbs/hr	9 MMBtu/hr natural gas
- U33	20,000 lbs/hr	12.6 MMBtu/hr natural gas

Rule 4-18 particulate emission standard for an emission unit with the above corresponding capacities

- UO1-1 to UO1-3	9.05 lbs/hr each
- U21	36.00 lbs/hr
- U22-U23	28.5 lbs/hr each (linear interpolation)
- U31	16.65 lbs/hr
- U32	20.88 lbs/hr (linear interpolation)
- U33	24.00 lbs/hr

Emission Data

UO1-1 to UO1-3: Particulate emission factor = 1.0533 lb/ton (stacktest); particulate emissions from combustion products, metal impurities, and fluxing:

U21-U23, U31-U33: Particulate emission factor = 0.0076 lb/MMBtu (AP-42); particulate emissions from combustion products only

Hourly Particulate Emissions

- UO1-1 to UO1-3	2.5 tons/yr * 1.0533 lbs/ton	= 2.63 lbs/hr each
- U21	20 MMBtu/hr * 0.0076 lb/MMBtu	= 0.15 lbs/hr
- U22-U23	12 MMBtu/hr * 0.0076 lb/MMBtu	= 0.09 lbs/hr each
- U31	13 MMBtu/hr * 0.0076 lb/MMBtu	= 0.10 lbs/hr
- U32	9 MMBtu/hr * 0.0076 lb/MMBtu	= 0.07 lbs/hr
- U33	12.6 MMBtu/hr * 0.0076 lb/MMBtu	= 0.10 lbs/hr

As the emissions from each unit while operating at maximum capacity are lower than the applicable Rule 4-18 standard, each unit should meet the Rule 4-18 standard if operated at capacity or below.

Attachment 3 - Title V Statement of Basis
Emission Calculation Demonstration for Periodic Monitoring
Condition #7 of 10/95 permit
Hourly and annual emissions from the caustic scrubber stack

- Tank Capacities: one 570 gallon tank and one 1683 gallon tank (2253 gallon total)
- Emission factor (from source test): 0.0176 lb/gal-hr
- 8760 hrs/yr operation
- 99% scrubber control efficiency (from Condition #3 of 10/95 permit)

Hourly Emissions

PM - 2253 gallons * 0.0176 lb/gal-hr * 0.01 = 0.4 lbs/hr

Annual Emissions

PM - 0.40 lbs/hr * 8760 hrs/yr / 2000 lbs/ton = 1.7 tons/yr